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Application of:

NAGARAJA, T.G. et al.

Serial No. : 10/647,057

Filed: August, 22, 2003

RECOMBINANT FUSOBACTERIUM
NECROPHORUM LEUKOTOXIN VAC-
CINE AND PREPARATION THEREOF

Docket No. 30296A-DIV1

Group Art Unit No. 1642

Examiner:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

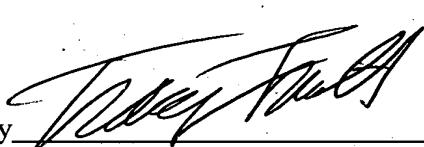
INFORMATION DISCLOSURE STATEMENT

The attached references are being filed to fulfill the duty of candor and good faith toward the Patent and Trademark Office, as required by 37 C.F.R. §1.56.

Respectfully submitted,

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By


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O I P E
P A T E N T & T R A D E M A R K O F F I C E
S P E C I A L

		Langworth, B.F.; <i>Fusobacterium necrophorum</i> ; (1977); Bacteriol. Rev. 41:373-390
		Nagaraja et al.; Liver abscesses in feedlot cattle: A review; (1998); J. Anim. Sci. 76:287-298
SEP 03 2003		Narayanan et al.; Cloning, sequencing and expression of the leukotoxin gene from <i>Fusobacterium necrophorum</i> ; Infect. and Immun.; Sept. 2001, Vol. 69, No. 9, p. 5447-5455
		Rowe et al.; Microtechnique for most-probable-number analysis; (1977); Appl. Environ. Microbiol. 33:675-680
		Saginala et al.; Effect of <i>Fusobacterium necrophorum</i> leukotoxinoid vaccine on susceptibility to experimentally induced liver abscesses in cattle; (1997); J. Anim. Sci. 75:1160-1166
		Saginala et al.; The serum neutralizing antibody response in cattle to <i>Fusobacterium necrophorum</i> leukotoxinoid and possible protection against experimentally induced hepatic abscesses; (1996a); Vet. Res. Comm., 20:493-504
		Saginala et al.; The serum neutralizing antibody response and protection against experimentally induced liver abscesses in steers vaccinated with <i>Fusobacterium necrophorum</i> ; (1996b); Am. J. Vet. Res. 57:483-488
SEP 08 2003		Smith, et al.; Pathogenicity of <i>Fusobacterium necrophorum</i> strains from man and animals; (1993); Epidemiol. Infect. 110:499-506
		Smith, et al.; Necrobacillus and immunity in mice; (1989); Epidemiol. Infect. 103:211-215
		Tan et al.; Selective enumeration of <i>Fusobacterium necrophorum</i> from the bovine rumen; (1994b); Appl. Environ. Microbiol. 60:1387-1389
		Tan et al.; <i>Fusobacterium necrophorum</i> infections: virulence factors, pathogenic mechanism and control measures; (1996); Vet. Res. Comm. 20:113-140
		Tan et al.; Biological and biochemical characterization of <i>Fusobacterium necrophorum</i> leukotoxin; (1994c); Am. J. Vet. Res. 55:515
		Tan et al.; Purification and quantification of <i>Fusobacterium necrophorum</i> leukotoxin using monoclonal antibodies; (1994d); Vet. Microbiol 42:121-133
		Warner et al.; Passive Hemmagglutination Test for Determining the Immune Response of Rabbits to <i>Sphaerophorus necrophorus</i> of bovine hepatic abscess origin; (1974); Am. J. Vet. Res. 35:551-554
		Nagaraja et al., The Compendium, September 1996, pp. S230-241
		Nagaraja et al., The Compendium, October, 1996, pp. S264-273
		Gillis et al.; Evaluation of Primary Rumen Epithelial Cell Culture Technique in Sheep, Fed. Proc. 11:LB210
		Zeller, U.P., Toxin Production by <i>Corynebacterium pyogenes</i> , toxin storage, antibody titres in blood and milk serum samples from healthy and mastitic cows. CAB Accession No. 792236623 (1978)
		Vladutiu, O. et al.; Immunization of swine against corynebacterial osteoarthropathy; CAB Accession No. 792237402; (1975/76)
		Funk et al.; Identification and partial characterization of an <i>actinomyces pyogenes</i> hemolysin; Vet. Micro., 50 (1996) 129-142
		Morrison et al.; Identification of <i>Actinomyces (Corynebacterium) pyogenes</i> with the API 20 Strep System, J. Clinical Microbiology; Vol. 26, No. 9, 1988, pp. 1865-1866
		Narayanan et al.; Biochemical and biological characterizations and ribotyping of <i>actinomyces pyogenes</i> and <i>actinomyces pyogenes</i> -like organisms from liver abscesses in cattle; Veterinary Microbiology, 61 (1998), pp. 289-303
		Billington, et al.; Molecular characterization of the pore-forming toxin, pyolysin, a major virulence determinant; Veterinary Microbiology, 82 (2001), 261-274
		Billington, et al. The <i>Aracanobacterium (Actinomyces) pyogenes</i> Hemolysin, Pyolysin, is a novel member of the Thiol-Activated Cytolysin Family; J. Bacteriology, Oct. 1997, p. 6100-6106
		Billington, et al.; Thiol-activated cytolsins: structure, function and role in pathogenesis; FEMS Microbiology Letters 182 (2000), 197-205
		Jost et al.; An <i>aracanobacterium (actinomyces) pyogenes</i> mutant deficient in production of the pore-forming cytolsin pyolysin has reduced virulence; Infection and Immunity, Apr. 1999, p. 1723-1728
		Koromyslov, G.F., Vaccine for prevention of necrobacteriosis in cattle; SU 1835295 (Abstract)
		Manual of Clinical Microbiology (3rd Ed.), <i>Culture Media</i> , p. 975
		Quinones, Sowerby, C.A., New vaccine against bovine keratoconjunctivitis; CAB Accession No. 792237182 (1978)
		Testing of Combined <i>Fusobacterium Necrophorum</i> Leukotoxinoid and <i>Actinomyces Pyogenes</i> Vaccine for Prevention of Liver Abscesses (undated)

EXAMINER: Initial if citation considered, whether not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Rev. 2-32)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE <i>TYPE</i>	ATTY. DOCKET NO. 30296A-DIV1	SERIAL NO. 10/647,057
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>SEP 03 2003</i> (Use several sheets if necessary)		APPLICANT: Nagaraja, T.G. et al.	
		FILING DATE: August 22, 2003	GROUP:

U.S. PATENT DOCUMENTS

EXAM. INITIAL	DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4	1	5	2	4	1	5	5/1979	Harris et al.			
	4	2	0	3	9	6	8	5/1980	Harris et al.			
	4	9	1	9	9	2	9	4/1990	Beck			
	5	4	5	5	0	3	4	10/3/95	Nagaraja et al.			<i>RECEIVED SEP 08 2003</i>
	5	8	6	1	1	6	2	1/19/99	Nagaraja et al.			<i>TECH CENTER 1000/2900</i>
	5	8	0	4	1	9	0	9/8/98	Struck et al.			

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		Abe et al.; <i>Fusobacterium necrophorum</i> infection in mice as a model for the study of liver abscess formation and induction of immunity; (1976); Infect. Immun. 13:1473-1478
		Abe et al.; Immunization of Mice Against <i>Fusobacterium necrophorum</i> infection by Parenteral or Oral Administration of Vaccine; (1978); Am J. Vet Res.; 39:115-118
		Berson, G.; Silver staining of proteins in polyacrylamide gels: increased sensitivity by a blue toning, (1983); Anal. Biochem. 134:230-234
		Cameron et al.; Antibody Response to and Immunity Induced by <i>Corynebacterium Pyogenes</i> Vaccine; Ondersteopor J. vet. Res. 43 (3), 97-104 (1976)
		Cameron et al.; Failure to INDuce in Rabbits Effective Immunity to a Mixed Infection of <i>Fusobacterium Mectrophorum</i> and <i>Corynebacterium Pyogenes</i> with a Combined Bacterin; Ondersteopor J. vet. Res. 44 (4), 253-256 (1977)
		Conion et al.; Evaluation of experimentally induced <i>Fusobacterium necrophorum</i> infections in mice; (1977); Infect. Immun. 15:510-517
		Coyle-Dennis, et al.; Biological and Biochemical Characteristics of <i>Fusobacterium necrophorum</i> Leukocidin; Am. J. Vet Res. (1978); 39:1790-1793
		Coyle-Dennis, et al.; Correlation between leukocidin production and virulence of two isolates of <i>Fusobacterium necrophorum</i> . (1979) Am. J. Vet Res. 40:274-276
		Emery et al.; Generation of immunity against <i>Fusobacterium necrophorum</i> in mice inoculated with extracts containing leukocidin; (1986) Vet. Microbiol. 12:255-268
		Emery et al.; Biochemical and functional properties of a leukocidin produced by several strains of <i>Fusobacterium necrophorum</i> ; (1984); Aus. Vet. J.; 61:382-385
		Emery et al.; Studies on the purification of the leukocidin of <i>Fusobacterium necrophorum</i> and its neutralization by specific antisera; (1986); Vet. Microbiol. 11:357-372
		Emery et al.; Virulence determinants of <i>Fusobacterium necrophorum</i> and their prophylactic potential in animals. In: Stewart, D.J., Peterson, J.E., McKern, N.M. and Emery D.L. (eds), Foot rot in remittants. Proceedings of a workshop, Melbourne (CSIRO Division of animal health, Australian wool corporation, Australia), 267-274
		Garcia et al.; Biological characterization of <i>Fusobacterium necrophorum</i> cell fractions in preparation for toxin and immunization studies; (1975); Infect. Immun. 11:606-616
		Garcia et al; Results of a preliminary trial with sphaerophorus necrophorus toxoids to control liver abscesses in feedlot cattle; Can. J. Comp. Med., (1974) 38:222-226
		Garcia, et al.; Intraperitoneal immunization against necrobacillosis in experimental animals; (1978) Can. J. Comp. Med. 42:121-127
		Hunter, et al.; Failure of an <i>Actinomyces Pyogenes</i> Vaccine to Protect Sheep Against an Intravenous Challenge; Ondersteopor J. vet. Res., 57, 239-241 (1990)



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Transmitted herewith is an IDS and accompanying 52 references and return postcard. These documents are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Assistant Commissioner for Patents, Alexandria, VA 22313-1450 on September 3, 2003.

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